



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097274,601	03/23/99	MERMELSTEIN	MIT-106(5473

021323  
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MM21/0626

EXAMINER  
SPECTOR, D

ART UNIT	PAPER NUMBER
2873	5

DATE MAILED: 06/26/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Notice of Allowability**

Application No.

09/274,601

Examiner

David N Spector

Applicant(s)

MERMELSTEIN, MICHAEL

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1. ☒ This communication is responsive to Preliminary Amendment (filed 6/21/00).
2. ☒ The allowed claim(s) is/are 1-22.
3. ☐ The drawings filed on \_\_\_\_\_ are acceptable.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
a) ☐ All b) ☐ Some\* c) ☐ None of the CERTIFIED copies of the priority documents have been  
1. ☐ received.  
2. ☐ received in Application No. (Series Code / Serial Number). \_\_\_\_\_.  
3. ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. ☒ Applicant MUST submit NEW FORMAL DRAWINGS  
(a) ☐ because the originally filed drawings were declared by applicant to be informal.  
(b) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review( PTO-948) attached  
1) ☒ hereto or 2) ☐ to Paper No. \_\_\_\_\_.  
(c) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the examiner.  
(d) ☐ including changes required by the attached Examiner's Amendment / Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

**Attachment(s)**

- 1 ☒ Notice of References Cited (PTO-892)  
3 ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
5 ☒ Information Disclosure Statements (PTO-1449), Paper No. 2.  
7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 2 ☐ Notice of Informal Patent Application (PTO-152)  
4 ☒ Interview Summary (PTO-413), Paper No. 5.  
6 ☐ Examiner's Amendment/Comment  
8 ☒ Examiner's Statement of Reasons for Allowance  
9 ☐ Other

Georgia Epps

Supervisory Patent Examiner

Technology Center 2800  
Notice of Allowability

### REASONS FOR ALLOWANCE

1. Claims 1-22 are allowed, as revised in accordance applicant's preliminary amendment, filed June 21, 2000. The examiner's statement of reasons for allowance follows.

2. The instant application is directed to maskless projection microlithography systems. In particular, independent claims 1 and 19 recite interferometric microlithography systems wherein each of a plurality of coherent electromagnetic beams are manipulated in such a way that at least one of the amplitude, phase, and/or polarization of each beam is modulated before being directed to an overlap region where the modulated beams interfere constructively/destructively to produce a non-periodic pattern. Each coherent beam is modulated by one of a plurality of beam controllers that are positioned to receive a respective one of the of the individual beams. Each beam controller is electrically connected to, and under the control of a single system controller. Independent claim 11 recites the steps of the particular method of producing a spatially non-periodic interference pattern embodied in the invention(s) commensurate with applicant's independent claims 1 and 19. The prior art made of record, taken either singly or in combination, fails to anticipate or fairly suggest the limitations of applicant's independent claims noted above, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The invention(s), therefore, is considered to be in condition for allowance as being novel and nonobvious over prior art

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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### REMARKS

4. The application having been allowed, FORMAL DRAWINGS ARE REQUIRED in response to this Office Action.

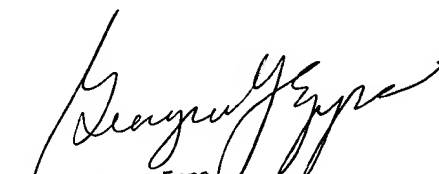
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Anderson et al. (U.S. Patent 5,142,385) discloses coherent microlithography systems capable of sub-micron spatial resolution.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Spector whose telephone number is (703) 305-1521. The examiner can normally be reached at this number Monday through Friday between 6:30 AM and 3:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps, can be reached on (703) 308-4883. The fax number for the organization where this application is assigned is (703) 308-7722.

David N. Spector



June 21, 2000



Georgia Epps  
Supervisory Patent Examiner  
Technology Center 300